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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/749,028	12/30/2003	David V. Pedersen	P46C1-US	8287
27521	7590	11/17/2004	EXAMINER	
KEN BURRASTON KIRTON & MCCONKIE PO BOX 45120 SALT LAKE CITY, UT 84145-0120			ABRAMS, NEIL	
			ART UNIT	PAPER NUMBER
			2839	

DATE MAILED: 11/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/749,028	PEDERSEN ET AL.	
	Examiner	Art Unit	
	Neil Abrams	2839	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 August 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-36 is/are pending in the application.
- 4a) Of the above claim(s) 24-36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-24 is/are rejected.
- 7) ☒ Claim(s) 3,4,7 and 17-23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on: _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>5 sheets</u> | 6) <input type="checkbox"/> Other: _____ |

Spec. page 1, first listed parent case, now abandoned must be added.

Non-elected claims must be cancelled.

PTO-1449; Japan 09/508241 not seen in this or parent filed also date is required.

Claims 3, 4, 7, 17-23, Objected to; terms unsingulated" and singulated are not seen in spec and just what is referred to is not clear.

Claim 4 die and claim 17, line 7 said semiconductor lack antecedent basis.

Figs. 8, 8A, 8B objected^{to}₁, these figs. And related material in spec are unclear and are not understood; is 800 a hollow circular wafer? Where is the probe card. Spec. pages 26, 27 description of these figs. Is unclear.

Claim 10 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The disclosure of thermal chucks in context of claimed subject matter is unclear and non-enabling.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the claim 10 ~~claim 10~~ features in combination with claim 2 features must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate

prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claims 2-5, 7, 8, 14-18, 20-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wood in view of Reymond.

Wood see fig. 3, discloses a system with support substrate 10 and plural substrates 12 onto which semiconductor die s14 are to be pressed. The dies lack spring connection elements. Reymond fig. 3a, includes dies 12 with spring contacts 14 and substrate with holes 26. Obvious to form Wood parts 14, 12 with such spring contacts and opening (pits). This would enable reliable contacting without solder use. The openings would form sockets on the substrates and would be joined by traces 30 to means 36 for engagement to a test device.

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Claims 3-5, 7, 8, 16, 17, 18, also met by patents so applied. Claims 14, 20, note Wood wires 42. Claims 15, 21, manner of forming holes (pits) not of structural significance.

For claims 3, 4, 7 terms "unsingulated", etc provide no distinction over single dies of Wood.

Many claims, such as 9, 11, 12, 13 appear directed to features not related to invention objects. Applicant should indicate which of these are at issue per se.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wood in view of Reymond and Horton.

under substrate 12, Horton uses an interposer
Wood/Reymond system has no interposer at 175, fig. 6. Obvious to use such device in Wood to enable connection to the probe card without use of wires.

Claims 9, 11, 12, 13, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wood in view of Reymond, Smith, Meany Pommer, and Russel.

Fro claim 9, 19, wood system lacks temperature control means, pommer fig. 8, uses cooling means at 50.

Obvious to use such means in Wood to prevent damage from heating. For claim 11, 12, obvious to use common voltage line and resistors in view of Russell at 101V, 104R and Meany, figs. 3, 4. For claim 13, obvious to use vacuum chuck in view of Smith at fig. 5. This would enable dies to be easily placed onto the substrates.

Claims 15, 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wood in view of Igarashi.

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Should the matter be at issue, also obvious to form the Wood pits in manner of those of Igarashi, fig. 2 at 2a. This would involve less hole formation.

Any inquiry concerning this communication should be directed to Neil Abrams at telephone number (571)272-2089.

Abrams/ds

11/08/04


NEIL ABRAMS
EXAMINER
ART UNIT 322